CLAIMS

What is claimed is:

1. A vibration diagnostic instrument for use by an automotive maintenance mechanic, the vibration diagnostic instrument comprising:

a sensor for sensing vibrations and generating a sensor signal in response thereto; and

a controller coupled to the sensor and receiving the sensor signal, the controller including a transmitter portion that generates a diagnostic signal responsive to the sensor signal, the transmitter portion transmitting the diagnostic signal over radio waves.

2. The vibration diagnostic instrument of Claim 1, wherein the radio waves are transmitted over an FM frequency band.

3. The vibration diagnostic instrument of Claim 2, wherein the FM frequency band is in the range of about 87.9 MHz to about 92.9 MHz.

4. The vibration diagnostic instrument of Claim 3, wherein the FM frequency band may be selectively changed between a plurality of predetermined FM radio frequency bands in the range of about 87.9 MHz to about 92.9 MHz.

5. The vibration diagnostic instrument of Claim 2, wherein the transmitter portion includes a bandwidth limiter for limiting the bandwidth of the diagnostic signal.

6. The vibration diagnostic instrument of Claim 5, wherein the bandwidth limiter limits the bandwidth of the diagnostic signal to about ±75 kHz.

7. The vibration diagnostic instrument of Claim 1, wherein a radio frequency band over which the diagnostic signal is transmitted may be selected from a plurality of predetermined radio frequency bands.

8. The vibration diagnostic instrument of Claim 1, wherein the controller further includes a microprocessor portion that is configured to automatically power the vibration diagnostic instrument down after a predetermined amount of time has elapsed.

9. The vibration diagnostic instrument of Claim 1, further comprising a power source, the power source including a battery and a switching power supply.

10. The vibration diagnostic instrument of Claim 9, wherein the power source further includes a voltage detector for monitoring a voltage of the battery, the voltage detector being configured to detect when the voltage of the battery is less than a predetermined voltage threshold and to responsively generate a low voltage signal.

11. A vibration diagnostic instrument for use by an automotive maintenance mechanic, the vibration diagnostic instrument comprising:

a clamp that is configured to be coupled to a component or a structure of an automotive vehicle;

a sensor coupled to the clamp, the sensor being operable for sensing vibrations and generating a sensor signal in response thereto; and

a controller coupled to the sensor and receiving the sensor signal, the controller including a transmitter portion that generates a diagnostic signal responsive to the sensor signal, the transmitter portion transmitting the diagnostic signal over radio waves.

12. The vibration diagnostic instrument of Claim 11, wherein the clamp includes a pair of clamp halves and a spring, the clamp halves being pivotably coupled to one another, each of the clamp halves including a jaw portion, the spring exerting a force onto the clamp halves that biases the jaw portions toward one another, the sensor being coupled to one of the jaw portions.

13. The vibration diagnostic instrument of Claim 11, wherein the sensor is a piezoelectric bender.

14. The vibration diagnostic instrument of Claim 11, wherein the radio waves are transmitted over an FM frequency band.

15. The vibration diagnostic instrument of Claim 14, wherein the FM frequency band is in the range of about 87.9 MHz to about 92.9 MHz.

16. The vibration diagnostic instrument of Claim 15, wherein the FM frequency band may be selectively changed between a plurality of predetermined FM radio frequency bands in the range of about 87.9 MHz to about 92.9 MHz.

17. The vibration diagnostic instrument of Claim 14, wherein the bandwidth limiter limits the bandwidth of the diagnostic signal to about ±75 kHz.

18. The vibration diagnostic instrument of Claim 11, wherein a radio frequency band over which the diagnostic signal is transmitted may be selected from a plurality of predetermined radio frequency bands.